

What is claimed is:

1. A method for forming printing inspection data which is used in a printing inspection apparatus for inspecting the printed state of the cream solder of a board after a screen printing to form the inspecting data including configuration and position data showing the configurations and positions of solder printing parts in which the cream solder is printed on a printing surface,

wherein, in a mask data obtaining step for obtaining element configuration and position data showing the configurations and the positions of the element solder printing parts printed on electrodes for connecting together electronic parts provided on the circuit forming surface of the board by detecting opening parts of a mask plate on the basis of images obtained by picking-up the images of the mask plate used for the screen printing by a camera, when the image pick-up visual field of the camera is sequentially moved to a plurality of visual field positions set to the mask plate in accordance with a prescribed moving sequence to obtain a plurality of images, if an incomplete opening part in which a part of the opening part partly protrudes so that a configuration is not completed is detected from an image obtained in one image pick-up visual field, a process for obtaining a complete opening part to which the incomplete opening part belongs is carried out in accordance with the detected result.

2. A method for forming printing inspection data which is used in a printing inspection apparatus for inspecting the printed state of the cream solder of a board after a screen printing to form the inspecting data including configuration and position data showing the configurations and positions of solder printing parts in which the cream solder is printed on a printing surface,

wherein, in a mask data obtaining step for obtaining element configuration and position data showing the configurations and the positions of element solder printing parts printed on electrodes for connecting together electronic parts provided on the circuit forming surface of the board by detecting opening parts of a mask plate on the basis of images obtained by picking-up the images of the mask plate used for the screen printing by a camera, when the image pick-up visual field of the camera is sequentially moved to a plurality of visual field positions set to the mask plate in accordance with a prescribed moving sequence to obtain a plurality of images, if an incomplete opening part in which a part of the opening part partly protrudes so that a configuration is not completed is detected from an image obtained in one image pick-up visual field, an adjacent image pick-up visual field in the end of the image in which the incomplete opening part is detected is overlapped on the one image pick-up visual field by an overlap margin determined by the size of the incomplete opening part

in the image.

3. A method for forming printing inspection data according to claim 2, wherein the plural visual field positions are set in a substantially grid shaped arrangement and the prescribed moving sequence is a moving sequence performed in such a manner that a liner column movement toward the same direction from a start end to a terminal end in a first direction in the grid shaped arrangement is repeated in a second direction perpendicular to the first direction.

4. A method for forming printing inspection data according to claim 3, wherein the overlap margin in the second direction of the overlap margins in which two adjacent image visual fields are overlapped in the second direction is set on the basis of a maximum size of sizes of the incomplete opening parts in the second direction which are detected in the first column movement and the same overlap margin in the second direction is used in a column movement subsequent to the first column movement.

5. A method for forming printing inspection data which is used in a printing inspection apparatus for inspecting the printed state of the cream solder of a board after a screen printing to form the inspecting data including configuration and position data showing the configurations and positions of

solder printing parts in which the cream solder is printed on a printing surface,

wherein, in a mask data obtaining step for obtaining element configuration and position data showing the configurations and the positions of element solder printing parts printed on electrodes for connecting together electronic parts provided on the circuit forming surface of the board by detecting opening parts of a mask plate on the basis of images obtained by picking-up the image of the mask plate used for the screen printing by a camera, when the image pick-up visual field of the camera is sequentially moved to a plurality of visual field positions set to the mask plate in accordance with a prescribed moving sequence to obtain a plurality of images, if an incomplete opening part in which a part of the opening part partly protrudes so that a configuration is not completed is detected from an image obtained in one image pick-up visual field, the incomplete opening part is registered as an opening part to be connected in the image, and then, a connecting process is carried out in which an opening part to be connected that is already registered in an image obtained in an adjacent image pick-up visual field on the edge of the image edge where the opening part to be connected is detected and corresponds to the opening part to be connected is connected to the opening part to be connected to form one opening part.

6. A method for forming printing inspection data according to claim 5, wherein the plural visual field positions are set in a substantially grid shaped arrangement and the prescribed moving sequence is a moving sequence performed in such a manner that a liner column movement toward the same direction from a start end to a terminal end in a first direction in the grid shaped arrangement is repeated in a second direction perpendicular to the first direction.

7. A method for forming printing inspection data according to claim 6, wherein when the opening part to be connected is dislocated from the already-registered opening part to be connected in the connecting process, both the opening parts are respectively moved by half an amount of dislocation toward the central point of dislocation.